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Solid Waste Update

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The Johnson County Landfill:

The Largest Solid Waste Disposal Facility in Kansas

by Dennis Degner

The Johnson County Landfill (JCL) located just west of Interstate 435 at Holliday Drive and south of the Kansas River, has been operated by Deffenbaugh Industries since 1967. It started as a small quarrying operation and landfill at that time, but did not obtain a state operating permit until 1978. The facility receives solid waste from eastern Kansas (Atchison, Doniphan, Johnson, Miami, Shawnee, and Wyandotte counties) and western Missouri in the Kansas City and St. Joseph metropolitan areas. It operates on 663 acres including 243 acres of disposal units. Over the past 37 years, it has grown into the largest solid waste landfill operation in the state.

During the past 12 months of operation, disposal at the facility has averaged 5,155 tons a day while operating 365 days a year, for a total of 1,881,704 tons. The operations at JCL include the disposal of municipal solid waste, construction and demolition wastes, and special wastes (industrial and treated medical wastes). It also receives yard waste for composting, metals (white goods) for recycling, and medical wastes which are stored and then transferred off-site for treatment. Recent data indicates that the annual percentages of wastes disposed are 69 percent municipal, 11 percent construction and demolition, and 20 percent special waste.

Johnson County Landfill

Until 1995, all waste disposed of at this facility entered unlined cells. But KDHE upgraded the Kansas solid waste landfill regulations in October 1994 to be substantially equivalent to the federal regulations, which are nominally referred to as the Subtitle D regulations. One of the major provisions of the new regulations required that all wastes be placed in composite-lined cells. In accordance with this change, management at this facility installed their first composite clay and flexible membrane liner in 1995 in the area designated as Phase 3.

This facility's operating requirements are to some extent based upon the underlying geology of the site which consists of a layer-cake of limestones and shales. The

(continued on page 7)

In This Issue . . .

Special Features

Calendar Items

January 23-26, 2005	**US Composting Council 13th Annual Conference and Trade Show** San Antonio, Texas
February 15, 2005	**CAFO Composting Conference** El Dorado, Kansas
February 17, 2005	**CAFO Composting Conference** Garden City, Kansas
February 23, 2005	**Kansas Recycling Association Planning Meeting** Lyons, Kansas
March 29-31, 2005	**2005 WORKS! Conference** North Newton, Kansas

Solid Waste Update

Kansas Department of Health & Environment

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Wes Adell (In Memoriam)

by Kent Foerster

Wes Adell Jr., the CNN described "King of Composting" and recent inductee to the Kansas Solid Waste Management Hall of Fame, died of liver cancer on Oct. 30. He was 57. Joe Cronin first met Wes Adell at a meeting held at Kansas State University in Manhattan in Fall 1994. Wes had a vision to spread the word about composting with a conference, education, training and outreach. Joe sent him to Bill Bider, director of the Bureau of Waste Management and the rest is history. Ken Powell and I were the initial KDHE tag team working with Wes the first six WORKS! Conferences. As Wes expanded his international missions his role diminished with WORKS! However, he truly was the inspiration and the person that named and created WORKS!

Ken's succinct description of Wes was that he could sell ice cubes to Eskimos and that his intense enthusiasm and excitement brought in people from near and far. He blazed trails wherever he went. He worked to create a new city pool and Growing Out and Tree Composting Station in Lindsborg; fought for Rails to Trails; created WORKS!, and traveled to Central and South America, Africa, Turkey and Europe to promote integrated compost, drip irrigation, use of surplus seeds and solar projects combined with a gospel of faith to communities in need. Wes even launched the Kansas Don't Spoil It! Day at the Kansas State Fair in partnership with another recently passed away colleague, Larry Ankerholz. Larry, a long time Fair employee, died tragically on the Fair Grounds in September.

Wes Adell

Wes, through his broad vision, enthusiasm, strong faith and great promotional efforts, made a difference in many lives particularly as he would go on to the next visionary project. I fondly remember his desire to reach to the next generation and his deep well of faith. He brought in busloads of children to early WORKS! and to the first Kansas State Fair events. He would always call me every time he came back from his many trips abroad and share the good and bad news. His last trip in July from Africa he was more tired than usual. We tried to get together several times but never did. He will be missed.

Memorial gifts in Wes Adell's honor may be sent to the First Baptist Church Building Fund, Lindsborg in care of the Christians Funeral Home, 103 N. Washington St., PO Box 386, Lindsborg, Kansas 67456-0386.

2005 WORKS!

March 29-31, 2005
Bethel College
North Newton, Kansas

"Looking Toward the Future"

School Lab Clean-Out

by Maria Morey

This spring the School Lab Sweep Program will conclude. Currently we are working with secondary schools in south central Kansas to remove unwanted or obsolete chemicals. Forty-three schools in south central Kansas have registered and are participating in the program.

KDHE divided the state into six collection regions to make the statewide project manageable. During each fiscal year two regions were eligible for the Sweep Program. To date the southeast, north central, northwest, northeast and southwest region sweeps are complete. Within these regions 194 schools participated and over 11,500 containers of hazardous chemicals were removed from the schools. The removal of these containers resulted in almost 15,000 pounds of hazardous waste.

Look for an article in an upcoming issue of the Solid Waste Update detailing the completed school sweep program.

The Johnson County Landfill *(continued from page 1)*

shale layers restricts the flow of groundwater between limestone layers. Once the groundwater reaches the northern boundary of the landfill, it empties into the alluvium of the Kansas River flood plain. There the water either flows underground to the Kansas River or into Hays or Mill Creeks to flow as surface water to the river.

Groundwater contamination was caused by wastes that were disposed prior to 1995 in the unlined portion of the landfill. To intercept contaminated groundwater in the northwestern portion of the landfill, a deep trench (with an average depth of approximately 100 feet) was constructed in 2000-2001. The trench was designed to continually drain contaminated groundwater flowing away from the site. The effectiveness of the trench and overall pollution control is evaluated by monitoring 33 wells and sampling the surface water in Hays Creek at three different locations. Because of groundwater contamination, monitoring of the landfill is conducted under an assessment groundwater monitoring program. This program is more stringent than the usual standard, detection monitoring.

Operations have progressed to the active filling of Phase 5, the final permitted disposal area of the facility which is expected to last only until 2007. An application to expand the permitted site is anticipated in the spring of 2005. If approved, it would provide an additional 170 acres to the west of the existing landfill and enough capacity to last until 2027 (based upon projected waste flow rates).

Other unique operating features at this site include a deep well injection system and a landfill gas processing plant. Landfill leachate is collected and stored in tanks before being disposed onsite through the deep well injection system. Liquid waste flows by gravity into the Arbuckle geologic formation at a depth of 1,500 to 2,000 feet (up to 150,000 gallons per day). A new well with a much greater capacity (600,000 gallons per day) has been permitted and will likely be constructed in 2005.

The landfill gas processing plant operated by Southtex began operating in 1998. It presently treats approximately 4.5 million cubic feet of gas per day. Landfill gas processing involves separating methane from carbon dioxide, ammonia, and other volatile organic compounds. The cleaned methane is pumped into a nearby pipeline which transports it for home heating and various commercial and industrial uses.

BWM CAFO Activities *(continued from page 6)*

The other area that BWM is actively working on is the pre-selection of emergency disposal sites in the event of a FAD emergency. Ron Smith, a former KDHE employee, has been hired as a contractor to help individual CAFOs complete the paperwork necessary for approval of their site. Pre-selection of the emergency disposal site is important, because it gives the CAFO a voice in how their site will be dealt with in the event of the emergency. If the facility has not pre-selected a site before an emergency occurs, a "bureaucrat in Topeka" (Ken) will be selecting the site. So far, 25 facilities have submitted the paperwork for pre-selection.

Life Expectancy of MSWLFs

(continued from page 4)

Another area of concern, for some, is the exportation of waste from five counties in southeast/south-central Kansas (most significantly from the city of Wichita) to landfills in Oklahoma. To date, efforts to site a MSWLF in that region have failed due to local resistance.

Bureau staff hope that the accompanying map is useful in focusing attention on those areas where more intensive planning is needed. Additionally, the map shows that for the most part, existing MSWLFs have a "healthy" remaining life.

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Kansas Loses Important Recycling Advocate

by Kent Foerster

The **Kansas Business and Industry Recycling Program** (Kansas BIRP) will be closing its doors next year. Kansas BIRP was founded by beer distributors, the soft drink industry, Dillon's and other grocers and has been around for 21 years. In the past five years the program had expanded its membership and goals to incorporate *Keep Kansas Beautiful* and *America Recycles Day* (ARD). The program launched some of the first glass, aluminum, newspaper and magazine, phone directory, cell phone and computer recycling projects in the state. Kansas BIRP and its founding Executive Director, Chiquita Cornelius, have provided exemplary support to numerous programs across the state and maintained the comprehensive recycling database, which started with 43 single material programs in 1983 and now has over 1,700 facilities and programs listed. A big thank you goes out to the visionaries that started and supported this program for more than two decades.

The pending loss of Kansas BIRP and previous disappearance of the **Kansas Recyclers Association** (KRA: comprised primarily of scrap steel recyclers) nearly five years ago leaves only the **Citizens for Recycling**, founded by Margaret and Paul Miller back in the 1980s, as the only recycling oriented group left in the state. The story of struggling recycling associations reflects a national trend that begins with the **National Recycling Coalition** (NRC) that has faced the loss of many state affiliates and is digging itself out of major financial difficulties. Nebraska's long time association is struggling to survive and many other associations are dealing with a maturing but changing industry.

Formation of a new association to replace KRA and Kansas BIRP begins in earnest early next year. KDHE is in the process of hiring **The Docking Institute** of Fort Hays State University to help facilitate the establishment of a new statewide association to fill the void. The Institute will be sending out a survey and invitations to all sectors of the recycling, composting, household hazardous waste and waste reduction community serving Kansas in January 2005. The Docking Institute will then host a recycling association start up meeting in February in the central part of the state and report back the results at the 11th annual WORKS! Conference to be held March 29-31, 2005 at Bethel College in North Newton.

BWM Activities in Support of CAFO Facilities

by Ken Powell

If you ever come by Ken Powell's cubicle you are likely to hear talk of manure and dead cows. You might ask why is someone in the Bureau of Waste Management talking about livestock when the statute clearly says this is not solid waste? A more thorough reading of the statute explains that these wastes must be used in normal farming operations to be exempt from solid waste rules. When the dead animals and manure are composted or are part of a Foreign Animal Disease (FAD) emergency disposal incident, they are solid waste.

When the composting is performed within the boundaries of the Confined Animal Feeding Operation (CAFO), the activity is covered by their CAFO permit. If the composting is performed away from the CAFO, then a separate permit is required from the Bureau of Waste Management (BWM).

Because the CAFO must meet the solid waste regulations for composting, BWM has provided compost facility operations training through annual conferences held over the past few years. The next training workshops will be held Feb. 15, 2005 in El Dorado and Feb. 17, 2005 in Garden City. This year, the training will feature Dr. Robert Flynn from New Mexico State University. He has specialized in working with large dairies, but works with other species of livestock also. Dr. Flynn also provides education on the use of the compost once it is finished. *(continued on page 7)*

Kansas Solid Waste Plan to be Updated

by Bill Bider, Director, Bureau of Waste Management

KDHE has begun the process of updating the four-year-old Kansas Solid Waste Management Plan. The state plan guides KDHE efforts and initiatives including how financial and staff resources are utilized.

The first step in the update process was to hold a meeting with approximately 40 "stakeholders" in Salina on Oct. 28, 2004. These stakeholders represented private solid waste management service providers, local governments, recyclers, composters, and environmental groups.

At this meeting, feedback was received in many areas related to the status of waste management practices in Kansas and the effectiveness of state programs. Stakeholders graded state and industry performance in 18 separate areas to help the department know where improvements are most needed. They also rated the importance of seven emerging issues to provide guidance on how to prioritize the use of state resources. Finally, the group provided opinions regarding how the department should use solid waste program funds if future shortages occur. Budget cuts are presently in FY 2006 if the landfill tipping fee remains at the current level of $1 per ton.

The greatest areas of concern to the stakeholders relate to reduced or eliminated grants for waste reduction, long-term facility capacity, new facility siting, e-waste management, the formation of a new Kansas recycling association, and solid waste public education. Most, but not all, stakeholders believed that the recycling and composting grant program should be cut before programs more directly related to *(continued on page 5)*

e-Waste Pilot Collection

by Jim Rudeen

One of the biggest waste management challenges our state will face in the coming decade is the disposal of waste electronics, or e-waste. E-waste, is old, worn out, or broken electronic equipment, like computers, TVs, cell phones, VCRs, etc. As technology continues to improve and frequent upgrades are necessary, people are generating more and more obsolete electronic products. Some electronic waste is heading to landfills, but most is being stored in basements, attics, and storerooms. There is a significant concern with the volume of waste and the impact that widespread disposal will make on landfill capacity. There are fewer environmental concerns because the heavy metals (mainly lead) found in these wastes are fairly immobile and unlikely to migrate through clay liners into groundwater. For these reasons and because there are recyclable components in all e-waste, it is preferable to divert these wastes from landfills to recycling facilities.

This past November, BWM implemented a pilot project to collect e-waste from the public in the Emporia and Liberal areas. The goal of the pilot was to help define the magnitude of the problem and the willingness of the public to participate in such an event. All material collected from the events were recycled to the greatest extent possible using a state vendor selected through the competitive bidding process. Early indications appear the pilot projects were well received with approximately 40 tons being collected in Emporia and around 12 tons received in Liberal. The bulk of the material received was old obsolete computers and monitors.

It is hoped information gained from the pilot can be used to implement larger scale collection programs throughout the state. Assuming funding for long-term e-waste collection programs can be secured, permanent partnerships could be developed with local governments to insure ongoing proper management of these wastes.

Stay tuned to the next issue of Solid Waste Management News for an updated on the Kansas e-waste collection program and the status of a long-term collection program.

Life Expectancy of MSWLFs

by Paul Graves

A number of municipal solid waste landfills (MSWLFs) in Kansas are approaching retirement age, while others have many years of productivity in front of them. Some may remain active for generations to come.

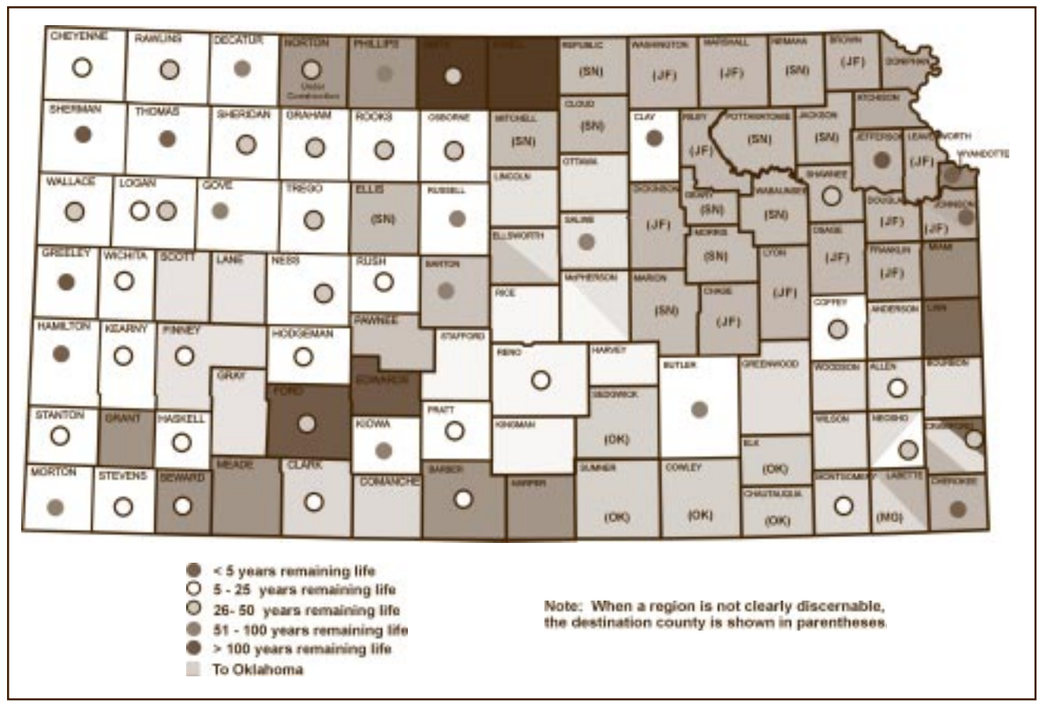
This is the prognosis from a recent analysis by the Bureau of Waste Management. Staff compiled information on the remaining useful life of all active MSWLFs based on annual estimates and tonnage reports from facility operators.

Using that information, Phyllis Funk, the Bureau's graphic designer, prepared a colorful map illustrating the remaining life of each facility and identifying their service areas. However, the map shown with this article had to be adjusted due to the limited availability of colors in Solid Waste Update. The full-color version can be viewed on the Bureau's Web site.

Remaining Life (years)	Number of MSWLFs
< 5	6
5 - 25	17
26 - 50	16
51 - 100	9
> 100	3

The outlook is summarized in the accompanying table. The good news is that most areas of Kansas are served by landfills that have capacity for continued disposal of waste well into the future. The not-so-good news is that a handful of landfills have only a few years of remaining capacity. Of particular concern are the landfills in the greater Kansas City area, because they accept massive quantities of waste (a combined disposal rate averaging about 6,000 tons per day).

In reality, though, the soon-to-be-maxed-out MSWLFs are not expected to cause a crisis. Lateral expansions are anticipated or currently planned to add capacity at these landfills, and other regional landfills could handle increased waste flows in the event that expansions do not occur. *(continued on page 7)*



Are Improvements to the Solid Waste Permitting Process Needed?

by Bill Bider

When a group of about 35 solid waste stakeholders met with KDHE in Salina on Oct. 28 to evaluate the status of numerous solid waste issues, they assigned the lowest Agrade@ to the process of siting new facilities in Kansas. Most stakeholders gave Anew facility siting@ a C, but several gave the state process D's and two gave the process an F. This low score is primarily based upon the lack of KDHE and citizen participation early in the process. More specifically, most stakeholders felt that more credible information needed to be shared with the public before local officials complete zoning and land use actions.

Current state laws provide no mechanism for KDHE to share site-specific information with the public until zoning is complete, including simply answering their questions. The department's first communications with the public do not occur until staff has completed a review of the application and is satisfied that the applicant has demonstrated its intent to comply with all siting, design, and operating requirements. This approach has caused the public to believe that KDHE has already made up its mind before comments are solicited at a public hearing or in writing. This perception adds to public frustration and distrust because, to them, KDHE now appears to be an advocate of the applicant while defending the department=s preliminary decision to issue the permit.

This problem has become clear during the two-year long heated debate over the possible issuance of a permit for a new regional landfill to Waste Connections in Harper County. In 2004, KDHE introduced legislation to require a "preliminary site evaluation" which precedes local zoning. Although this bill had good overall support, strong lobbying efforts by a few landfill companies successfully defeated the bill. In accordance with the recent stakeholders' recommendations, KDHE may again try to introduce legislation in 2005 to reopen discussion on this need.

In general, KDHE would support the requirement for all new solid waste facility applicants to prepare and submit a "preliminary site evaluation (PSE)" to KDHE. At a minimum, this evaluation would address siting restrictions, surrounding land use, potential "receptors" of any potential releases from the landfill, environmental pathways of release, applicable regulations to minimize the potential for releases, preliminary information regarding site geology, and depth to groundwater. The final application must thoroughly demonstrate that selected design and operations would provide acceptable safeguards to prevent release via the identified pathways. KDHE would review the PSE, provide comments to the applicant and local officials, and hold a public meeting to discuss findings and answer questions. All of this would happen before local authorities complete zoning for the facility.

There is nothing in existing law to preclude an applicant from voluntarily following these steps to improve public relations and KDHE will cooperate when asked to do so.

Kansas Solid Waste Plan *(continued from page 3)*

compliance and enforcement, permitting, clean-up, or technical training of facility operators; however, nearly everyone believed it would be beneficial to maintain the grant program to further enhance waste reduction in Kansas.

Very strong interest was expressed for the state to develop a new e-waste program designed to maximize diversion of computers, TV monitors, and other electronic items from landfills for recycling or reuse. Stakeholder concerns primarily relate to the large potential volume of e-waste and the desire to conserve landfill space. A work group will likely be established in early 2005 to study this issue and to make recommendations for a state role in establishing an appropriate system of e-waste collection.

Based upon stakeholder feedback, KDHE intends to develop a revised draft plan in Dec. 2004. The stakeholders will have a chance to review the plan before it is finalized and adopted by the Secretary of KDHE in February or March.